



US006868768B1

(12) **United States Patent**
Gieseke et al.

(10) **Patent No.:** **US 6,868,768 B1**
(45) **Date of Patent:** **Mar. 22, 2005**

(54) **SURF ZONE MINE CLEARANCE AND ASSAULT SYSTEM**

(75) Inventors: **Thomas J. Gieseke**, Newport, RI (US);
Kyrill V. Korolenko, Portsmouth, RI (US)

(73) Assignee: **The United States of America as represented by the Secretary of the Navy**, Washington, DC (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **10/679,677**

(22) Filed: **Oct. 6, 2003**

(51) Int. Cl.⁷ **B63G 7/02**

(52) U.S. Cl. **89/1.13; 102/402**

(58) Field of Search **89/1.13; 102/402, 102/403**

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,938,434 A * 5/1960 Myron 89/1.815
4,903,246 A 2/1990 Jarman
4,975,888 A * 12/1990 Kern 367/96

5,267,220 A * 11/1993 Burt 367/131
5,448,936 A * 9/1995 Turner 89/1.13
5,831,724 A * 11/1998 Cordes 356/141.1
5,844,159 A 12/1998 Posseme et al.
5,988,038 A * 11/1999 Feintuch 89/1.13
6,305,263 B1 10/2001 Wallin

FOREIGN PATENT DOCUMENTS

EP 305 556 A1 * 3/1989 89/1.13
FR 2 677 133 * 12/1992 89/1.13

* cited by examiner

Primary Examiner—Stephen M. Johnson

(74) *Attorney, Agent, or Firm*—James M. Kasischke;
Michael P. Stanley; James-Paul A. Nasser

(57) **ABSTRACT**

A system for clearing mines and other obstacles is provided. The system mountable to a vehicle which can operate in water and on land, includes a sonar targeting system and an underwater gun system. The underwater gun system is directed by readings from the sonar targeting system and fires underwater munitions to destroy detected mines and obstacles. The pod containing the sonar targeting system and the pod containing the underwater gun system are movable to target in multiple directions with each of the pods deployed at an end of a respective deployment arm.

10 Claims, 1 Drawing Sheet

